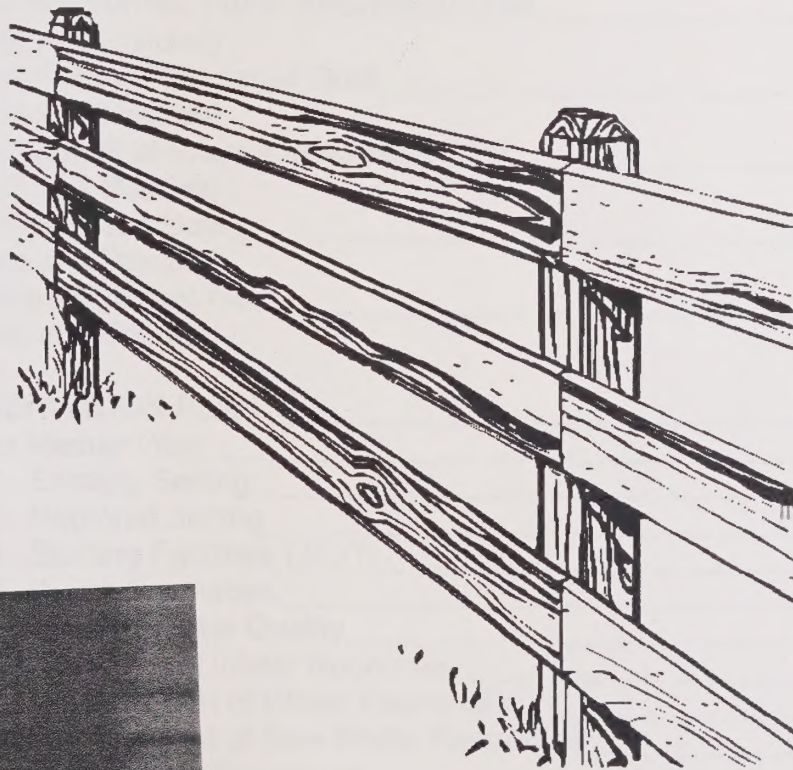


2004 0396

IGSL

CITY OF
NORCO
GENERAL PLAN
CONSERVATION ELEMENT



INSTITUTE OF GOVERNMENTAL
STUDIES LIBRARY

SEP 13 2004

UNIVERSITY OF CALIFORNIA

NOT FOR
MASTER
COPY, DOES
NOT HAVE
EXHIBITS
Conservation

LAST UPDATE ADOPTED: February 6, 2002

TABLE OF CONTENTS:

<u>TITLE</u>	<u>PAGE NUMBER</u>
1.0 INTRODUCTION TO THE CONSERVATION ELEMENT.....	1
1.1 Purpose of the Conservation Element.....	1
1.2 Scope and Format of Element.....	1
2.0 CONSERVATION ELEMENT GOALS AND POLICIES.....	1
2.1 Conservation Issues and Problems.....	1
Adequate and Potable Water Supply	
Energy Supply	
Wildlife Protection	
2.2 Water Resources Quality Goal.....	2
(Goals and Policies)	
2.3 Water Resources Supply Goal.....	3
(Goals and Policies)	
2.4 Water Resources, Public Awareness Goal.....	4
(Goals and Policies)	
2.5 Use of Energy Resources Goal.....	4
(Goals and Policies)	
2.6 Development of Energy Resources Goal.....	6
(Goals and Policies)	
2.7 Soil Resources Goal.....	6
(Goals and Policies)	
2.8 Wildlife Resources Goal.....	6
(Goals and Policies)	
3.0 THE CONSERVATION PLAN.....	7
3.1 Water Master Plan.....	7
3.1.1 Existing Setting.....	8
3.1.2 Regional Setting.....	8
3.1.3 Existing Facilities (2001).....	10
3.1.4 Water Resources.....	10
3.1.5 Existing Water Quality.....	12
3.1.6 Utilization of Water Resources.....	13
3.1.7 Conservation of Water Resources.....	15
3.1.8 Development of New Water Resources.....	15
3.1.9 Other Water Resources.....	15
3.2 Energy Resources.....	16
3.2.1 Conservation of Energy Resources.....	16
3.2.2 Utilization of Energy Resources, Direct and Indirect.....	17
3.2.3 Source and Supply of Energy Resources.....	18
3.2.4 Development of Energy Resources, Renewable and Non-renewable.....	20
3.2.5 Potential New Energy Sources.....	20
3.3 Soil and Mineral Resources.....	21
3.3.1 Soil Resources.....	21

3.3.2	Conservation of Soil Resources	22
3.3.3	Mineral Resources	22
3.4	Wildlife Resources	26
3.4.1	Existing Setting for Resources	26
3.4.2	Special Status Species	26
3.4.3	Hillside Habitat Resources	28
3.4.4	Lake Norconian Habitat Area	32
3.4.5	Santa Ana River Habitat Area	33
4.0	IMPLEMENTATION MEASURES	35
4.1	Reclaimed Water Program	35
4.2	Xeriscape	35
4.3	Water Quality Reports	35
4.4	Pollutant Discharge Control	35
4.5	Public Water Information Programs	35
4.6	Energy Blue-ribbon Committee	35
4.7	Multi-species Habitat Protection Program	35
4.8	Open Space Conservation	36
5.0	GLOSSARY OF TERMS	36

LIST OF EXHIBITS:

<u>EXHIBIT</u>	<u>PAGE NUMBER</u>
3.1	Water Master Plan
3.2	Water Resources-2001
3.3	Projected Water Resources-2005
3.4	Project Water Resources-Buildout, 2010
3.5	California Electricity Sources
3.6	Soil Classifications
3.7	Mineral Resource Zones
3.8	Wildlife Resources
	9
	11
	12
	12
	19
	24
	25
	27

LIST OF TABLES:

<u>TABLE</u>	<u>PAGE NUMBER</u>
3.1	Water Quality
3.2	Electricity Sources For California, 1999
3.3	Special Status Species-Birds
3.4	Special Status Species-Mammals
3.5	Special Status Species-Reptiles
3.6	Special Status Species-Fish and Amphibians
3.7	Special Status Species-Plants
	14
	19
	29
	30
	30
	31
	31

1.0 INTRODUCTION TO THE CONSERVATION ELEMENT

The City of Norco was incorporated to preserve a small plot agricultural/animal keeping/equestrian lifestyle. Primary to this goal is the maintenance of residential lots that will accommodate and encourage animal keeping and agriculture at a family scale, a concept that dates back to early colonial times. The Land Use Element establishes the primary goal of the community, which is the maintenance of that kind of lifestyle. All other elements of the General Plan must be consistent. The Conservation Element works in conjunction with the Land Use Element in providing the life quality standards that will sustain the community, and support the preservation of small plot agriculture/animal keeping/equestrian lifestyle as a viable overall land use. In an urban setting, the City of Norco provides a unique opportunity to maintain this lifestyle that is not readily available elsewhere in the region.

1.1 PURPOSE OF THE CONSERVATION ELEMENT

The purpose of the Conservation Element is to provide direction to the City regarding the preservation, development, and utilization of natural resources. The State has mandated that the General Plan provide for the conservation of natural resources for the use and enjoyment of future generations. Natural resources discussed in this element include water, energy, soils, minerals, and wildlife. For issues regarding land resources and use, see the Land Use Element.

1.2 SCOPE AND FORMAT OF ELEMENT

The element is composed of four sections. The first section includes a description of the Element's purpose and background for inclusion in the General Plan. The second section contains the City's goals and policy statements for the conservation of its resources including water, energy, soil, and wildlife. The third section is the Conservation Plan defining what the City needs to achieve with respect to its resources. The fourth section of the Conservation Element contains the implementation measures to accomplish the stated goals and policies.

2.0 CONSERVATION ELEMENT GOALS AND POLICIES

2.1 CONSERVATION ISSUES AND PROBLEMS

2.1.1 ADEQUATE AND POTABLE WATER SUPPLY: The City's average annual water production requirement is projected to increase from 6,000 acre feet now to 9,000 acre feet when ultimate development in the community occurs. The Temescal Basin is the City's primary source for water because of quality and comparatively low cost of extraction. The City's safe yield from that basin has been estimated to be 5,000 acre feet necessitating the need to continue to find additional sources of water.



2.1.2 **ENERGY SUPPLY:** Since the City does not produce any of its own electrical resources that are consumed here, the City is subject to market conditions that it has only minimal influence on. If there is a protracted downturn in power availability, or some other factor produces prolonged increases in the cost of energy, the City becomes vulnerable to maintaining its lifestyle. In addition, this places the City's potential to attract new development and jobs at a disadvantage to cities that supply their own electricity (i.e. Riverside) and may be able to weather market conditions better.

2.1.3 **WILDLIFE PROTECTION:** The City recognizes that the protection of wildlife resources and open space is an integral part of maintaining the City's small plot agriculture/animal keeping/equestrian lifestyle and image.

Inherent to this is the protection of the primary vegetative/habitat communities that support the species endemic to the Norco area. The hillside areas as one of the primary undisturbed habitat areas, can be preserved in open space to achieve that objective. The Santa Ana River, on the other hand, is already primarily preserved in open space, but has a non-native plant that has invaded the ecoregion (arundo) that is systematically supplanting native vegetation. Intervention for the removal of the arundo will be required before the Santa Ana River can be considered a sustainable habitat area for native species.

2.2 WATER RESOURCES QUALITY GOAL-CONTINUOUSLY MAINTAIN AN ADEQUATE WATER SUPPLY THAT EXCEEDS MINIMUM STATE AND FEDERAL WATER QUALITY REQUIREMENTS

2.2.1 **WATER SUPPLY POLICY:** The City will continue to seek ways to increase the available water resources through the preservation of existing resources, and the development of new ones.

Policy 2.2.1a. The City shall continue to promote water conservation through the use of xeriscape designs in new development. Additionally, public spaces shall incorporate xeriscape landscaping where feasible.

Policy 2.2.1b. The City shall continuously provide information to the public on ways to conserve water and reduce consumption. Water conservation measures shall be specific to the type of user (i.e. residential, animal-keeping, and commercial).

Policy 2.2.1c. The City shall complete initial infrastructure improvements for a reclaimed water line from the Archibald Treatment Plant to supply a continuing source for the replenishment of Lake Norconian and the proposed lake and landscape watering for the HCI complex under construction at the writing of this document. Infrastructure to other parks, landscape maintenance districts, and public facilities for landscape watering shall be completed on a continuing basis





Digitized by the Internet Archive
in 2026 with funding from
State of California and California State Library

<https://archive.org/details/C101747897>

as funding is available. New projects shall be required to install infrastructure for reclaimed water where the installation for future use is feasible.

Policy 2.2.1d. Insure that there are adequate increases in water production and distribution capabilities to meet future growth demands.

2.2.2 WATER QUALITY POLICY: The City shall continue to monitor water quality and use the different available resources for water supply to insure that the City has an uninterrupted supply of potable and aesthetic water throughout the year.

Policy 2.2.2a. The City shall protect water resources from pollutants through enforcement of the National Pollutant Discharge Elimination System (NPDES) of the Clean Water Act.

Policy 2.2.2b. To reduce the amount of manure being spread on residential properties and the potential impacts to ground water supplies, the City should investigate the feasibility and opportunity for processing domestic manure to produce methane gas for energy production.

Policy 2.2.2c. The City shall pursue opportunities to transfer CRC wastewater flow from the Santa Ana River Intercept (SARI) line to the Archibald Treatment Plant to allow for that capacity in the SARI line to be used for commercial manure that otherwise requires extensive and expensive pre-treatment if taken to the Archibald Treatment Plant.

Policy 2.2.2d. The City, in cooperation with the Riverside County Department of Environmental Health, shall vigorously enforce regulations regarding the dumping of commercial and industrial hazardous wastes to prevent contamination to groundwater supplies.

Policy 2.2.2e. The City shall continue to work with the Water Quality Control Board, and neighboring water agencies, for regional solutions to long range water quality issues.

Policy 2.2.2f. The City shall implement measures as feasible to maintain the aesthetic quality of the water as well as the potability.

2.3 WATER RESOURCES SUPPLY GOAL- PRESERVE RESOURCES BY REDUCING THE DEMAND FOR WATER IN CITY FACILITIES, AND IN PRIVATE DOMESTIC USE.

2.3.1 PUBLIC WATER CONSERVATION POLICY: The City should reduce demand for water in City facilities including parks, landscaped areas, and public buildings.

Policy 2.3.1a. The City should implement as feasible computer monitoring and soil sensors to control landscape watering.



Policy 2.3.1b. Watering of public landscaped areas shall occur during early morning and/or late evening hours to minimize water loss from evaporation.

Policy 2.3.1c. Water storage facilities should be constructed as feasible for the purpose of storing run-off water to recharge groundwater supplies.

2.3.2 PRIVATE DOMESTIC WATER CONSERVATION POLICY:

Policy 2.3.2a. The City shall require the installation of flow restriction fixtures in all new development.

Policy 2.3.2b. The City shall instigate and maintain public awareness programs of methods to preserve water resources including making available lists of feasible planting materials that are drought tolerant and/or low water users.

Policy 2.3.2c. The City shall establish an emergency conservation plan to include public agencies, businesses, and residences for times when water supplies are particularly low so as to maintain water supplies to maintain animal keeping.

Policy 2.3.2d. Residents should be encouraged to install animal keeping watering systems where such systems will reduce the overall amount of water being used.

2.4 WATER RESOURCES, PUBLIC AWARENESS GOAL- MAINTAIN PUBLIC AWARENESS OF WATER QUALITY ISSUES AND INDIVIDUAL RESPONSIBILITIES AS WATER CUSTOMERS

2.4.1 WATER CONTAMINATION POLICY

Policy 2.4.1a. The City shall continue public awareness programs of activities that are prohibited with regards to storm run-off, and measures that can be taken to reduce run-off contaminants to the Santa Ana River.

Policy 2.4.1b. The City shall instigate public awareness programs that describe the impact that intense area-wide animal keeping can have on groundwater and surface water quality, and the need for citizens to do everything they can to minimize that impact where possible. And about the potential for state intervention if conditions (in the Santa Ana River region) worsen significantly.

2.5 USE OF ENERGY RESOURCES GOAL- THE CITY SHALL PROMOTE AND ENCOURAGE THE EFFICIENT USE OF ENERGY RESOURCES.

2.5.1 RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL POLICY.



Policy 2.5.1a. The City shall encourage new construction and project design that uses, or takes advantage of renewable energy resources, including but not limited to passive solar energy design.

Policy 2.5.1b. The City shall update energy information documents for builders that reflect the most recent Title 24 energy efficiency requirements and standards.

Policy 2.5.1c. The City shall update requirements and policies as necessary to reflect the most cost effective advances in energy production and conservation.

2.5.2 CITY POLICY.

Policy 2.5.2a. The City shall use the most energy efficient designs for government facilities and equipment with the recognition of environmental benefits from energy conservation.

Policy 2.5.2b. The City should conduct periodic energy audits to analyze efficiency of heating, cooling, lighting, and water delivery in City facilities; the operation efficiency of city vehicles; and the modes of transportation being used by City employees to determine if savings can be made with reasonable adjustments.

Policy 2.5.2c. The City shall work towards greater energy efficiency by minimizing dependence on energy from non-renewable resources, replacing them with renewable energy resources.

Policy 2.5.2d. The City should support the development of non-polluting renewable energy resources through public education, and through incentive programs where such incentives are feasible.

Policy 2.5.2e. The City shall coordinate energy policies among relevant governmental entities.

Policy 2.5.2f. The City shall support alternative modes of transportation including the equestrian trail system, public transportation, bicycles, etc. to reduce the demand on non-renewable energy resources.

Policy 2.5.2g. The City shall look into the establishment of a blue-ribbon committee to analyze the various options available to the City for the conservation and development of energy resources.

Policy 2.5.2h. The City shall consider appointing or designating an "Energy Coordinator" to oversee long range energy conservation issues as they pertain to the functions of the various city departments.



Policy 2.5.2i. The City shall continuously review new and emerging technologies for the conservation and generation of electricity, and shall update policies as feasible and applicable.

2.6 DEVELOPMENT OF ENERGY RESOURCES GOAL- THE CITY SHALL SEEK OPPORTUNITIES TO DEVELOP RENEWABLE ENERGY RESOURCES.

Policy 2.6.1a. The City should research and promote where feasible the production of energy with alternative renewable resources.

Policy 2.6.1b. The City shall investigate and apply for government grants that provide opportunities to participate in innovative renewable energy resource programs that benefit residences and businesses.

2.7 SOIL RESOURCES GOAL- THE CITY SHALL SEEK WAYS TO REDUCE SOIL EROSION ON UNDEVELOPED LAND.

2.7.1 VACANT PROPERTY POLICY

Policy 2.7.1a. The City shall encourage property owners of vacant land to provide windbreaks in the form of trees and shrubs to minimize wind erosion.

Policy 2.7.1b. Existing vegetative cover that does not present a fire hazard should be maintained to reduce wind and storm run-off erosion. Where the maintenance of existing vegetation presents a fire hazard, the City shall encourage wildflower seeding, or other ground cover, that can help preserve topsoil.

2.7.2 GRADED PROPERTY POLICY

Policy 2.7.2a. The City shall require all new development and/or grading to include erosion control measures throughout the grading and construction phases.

Policy 2.7.2b. On property that has been graded for construction but is not scheduled for immediate construction, the City shall require wildflower seeding or other appropriate and aesthetic groundcover to maintain soil resources.

2.8 WILDLIFE RESOURCES GOAL- TO CONSERVE AND PROTECT NATURAL PLANT AND ANIMAL COMMUNITIES, AS WELL AS CRITICAL HABITATS FOR ENDANGERED SPECIES.

2.8.1 WILDLIFE AREA PROTECTION POLICY: The City will conserve and protect communities and wildlife habitats, such as riparian areas, wildlife movement corridors, wetlands, inland sage scrub, rare and endangered plant/animal



species, and other significant environmentally sensitive areas by using buffers, creative site planning, revegetation, and open space easements and dedications.

- 2.8.2 **BIOLOGICAL ASSESSMENT POLICY:** As part of the development review process for all development proposals, the City should require habitat and biological assessments in areas expected to contain significant or important plant and wildlife communities identifying species types and locations.
- 2.8.3 **WILDLIFE IMPACT MITIGATION POLICY:** The City should require development that has been found to have a potential adverse impact on sensitive species habitat to mitigate the potential impacts of proposed habitat changes.
- 2.8.4 **REGIONAL WILDLIFE PROTECTION POLICY:** The City should continue to participate and cooperate with Western Riverside Council of Governments and Riverside County on their efforts to develop and implement a long-term Multi-Species Habitat Conservation Plan (MSHCP) that provides the proper balance between recreational uses (equestrians, bicyclists, and hikers) and conservation use for habitat and species.
- 2.8.5 **PUBLIC LANDS POLICY:** The City shall support programs to consolidate public lands, as well as programs to acquire private open space as a means of preserving natural habitats. The City shall explore the possibility of acquiring Lake Norconian.
- 2.8.6 **NATURAL VEGETATION POLICY:** The City shall review all new development so as to remove only the minimal amount of natural vegetation as possible, and require revegetation of graded areas with native plant species consistent with public safety requirements.
- 2.8.7 **WILDLIFE MIGRATORY CORRIDOR POLICY:** The City shall protect and enhance known wildlife migratory corridors and help create new corridors whenever possible.
- 2.8.8 **SANTA ANA RIVER POLICY:** The City shall continue to cooperate in the removal and eradication of the Arundo plant community in the Santa Ana River area, reestablishing the native vegetation.

3.0 THE CONSERVATION PLAN

3.1 WATER MASTER PLAN

The Water Resource Master Plan of the Conservation Element contains information regarding the conservation, utilization, and development of water resources. Current and future water sources; and overall supply, quantity, and quality are discussed.



The City of Norco is serviced by its own City Water Department, which is administered by the Public Works Director.

3.1.1 EXISTING SETTING

The City, and therefore the Water Department encompasses a service area of approximately 9,200 acres, of which approximately 65% are zoned residential and small plot agriculture/animal keeping/equestrian land uses. Of the remaining land area, 7% is zoned commercial, 7% industrial, and 21% is zoned for other uses (i.e. open space, streets, and freeway).

3.1.2 REGIONAL SETTING

In California water resources are controlled by regional water quality control boards (RWQCB) that are appointed by the State. A RWQCB is charged with the responsibilities of protecting waters from pollution, and protecting rights to that water. The RWQCB controls the discharge of pollutants to groundwater resources and controls where and how agencies can dig wells. The City of Norco is located in the Santa Ana Region (RWQCB-8) which encompasses the drainage area of the Santa Ana River. That area consists of about 2,000 square miles beginning at the headwaters of the river in the San Bernardino Mountains running down to the river's outlet at the coast. The RWQCB-8 controls both surface waters and groundwater basins.

Ground water basins are underground bodies of water suspended in layers of sand/gravel that are confined by impermeable geologic structures such as upthrusts of subterranean bedrock and mountain ranges. Natural ground water basin boundaries roughly correspond to the river basin boundaries though they do not necessarily have to be coterminous. Groundwater basins work much the same way as a series of dams do along a river. Within the larger ground water basin, there are smaller sub-basins, some of which are formed by natural subterranean barriers, and some of which where the boundaries are adjudicated (set by the Court). The groundwater descends through subterranean "steps" as it descends towards the ocean. There are separate bodies of water but each are interrelated to one another through overflow and sharing of the same overall basin water supply.

Overdraft and pollution in one sub-basin can affect water quality in downstream sub-basins. That is the primary reason for a State appointed board (RWQCB-8) to oversee regional water supplies and insure quality control. There are primarily two of these smaller sub-basins that serve the Norco area. The Temescal Basin is the area south of the river and west of Norco hills. The Chino basin includes the area from the Santa Ana River north. The southern boundary of the Chino basin is an adjudicated boundary.



EXHIBIT 3.1 WATER MASTER PLAN



3.1.3 EXISTING FACILITIES (2001)

The existing system (Exhibit 3.1, Water Master Plan) consists of five well pumping plants that have a combined capacity of 6,200 gallons per minute (GPM) and a water treatment facility with capacity to treat 2,000 gpm. The City also has connections to the Jurupa Community Services District (JCSD) and to the City of Corona with capacity for 750 gpm and 4,000 gpm respectively. The City has four reservoirs with a capacity of 9MG. As various areas of the City develop and system improvements are made, the Master Water Plan should be re-analyzed to insure that facilities are being constructed as required to meet the City's water demand.

In addition, the specific capacity for wells decreases over time. Well site 11 has decreased approximately 7% since 1990. Well site 12 has decreased approximately 25% since 1994. Well site 13 has increased 535% because of rehabilitation in 1997. Well site 14 has decreased approximately 30% since 1995. The specific capacity of a well degenerates over time as fine waterborne material gets lodged in the aquifer zone near the well's gravel pack. Wells can be rehabilitated to improve specific capacity, but not totally restored.

Well sites can ultimately be abandoned because the level of ground water has receded to a point where the cost of digging deeper is prohibitive compared to finding other resources; and/or when the level of contaminants has grown to a point that it becomes too costly to treat the water as compared to obtaining new resources. Overdraft of the ground water basin (see "Definitions", Safe Yield-Overdraft) combined with uncontrolled pollution discharge affects the ground water basin and the life of the wells that pump therefrom.

3.1.4 WATER RESOURCES

There are several potential sources for the City's water supply that have been investigated and evaluated:

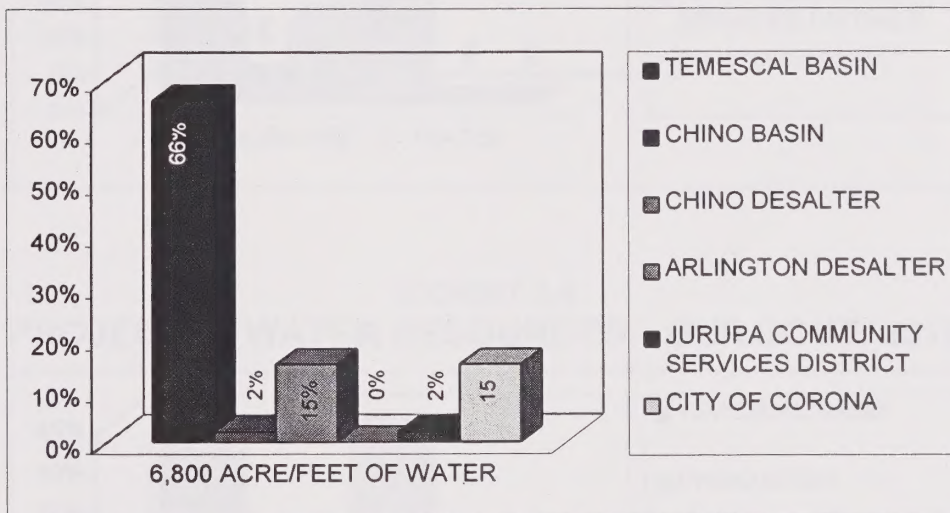
- Temescal ground water basin
- Chino ground water basin
- Jurupa Community Services District
- City of Corona connection
- WMWD connection for imported water
- WMWD connection to Arlington desalter
- WMWD connection to Chino west desalter
- WMWD connection to Chino east desalter
- City of Riverside connection



The feasibility of any water resource is a combination of the availability and the cost of extraction and/or treatment. The least expensive source for the City is the Temescal basin; however, the City's portion of the basin's safe yield is not enough water to meet all of the City's needs for the future.

Currently, the City of Norco's main source of water is the Temescal basin representing about sixty-six percent (66%) of the water supply (Exhibit 3.2, Supply of Water Resources-2001). Water taken from the Western Municipal Water District Chino Desalter is used to mix with the well water taken from the Temescal and Chino basins. Additionally, the City has backup connections to JCSD and the City of Corona to insure that maximum levels of salt containment are not exceeded for the City's potable water supply.

EXHIBIT 3.2
WATER RESOURCES – 2001



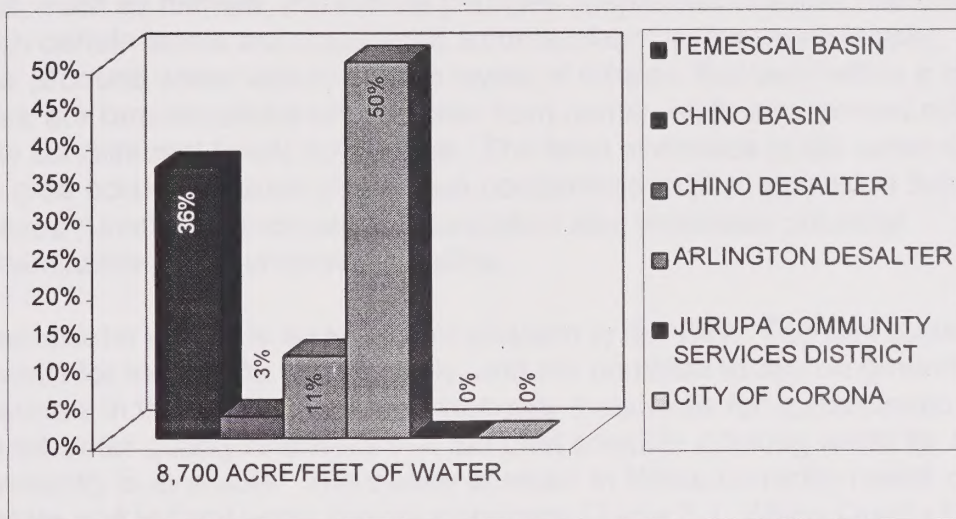
By 2005 the City is expected to use 8,700 acre feet of water. It is estimated that the biggest source of water will be the Arlington desalter rather than the Temescal basin. The City is expected to start receiving water from the Arlington desalter sometime around the year 2003-2004. It will provide approximately fifty (50%) of the City's water supply. The Chino basin desalter will supply eleven percent (11%) and the Chino ground water basin three percent (3%). The City is hoping to phase out any need to have to buy water from the City of Corona and/or JCSD by the year 2005. (Exhibit 3.3, Projected Water Resources - 2005).

Buildout for the City is expected to occur by the year 2010. When that occurs, it is estimated that the City will use 10,100 acre feet of water. Forty-three percent (43%) of the water will come from the Temescal ground water basin and forty-

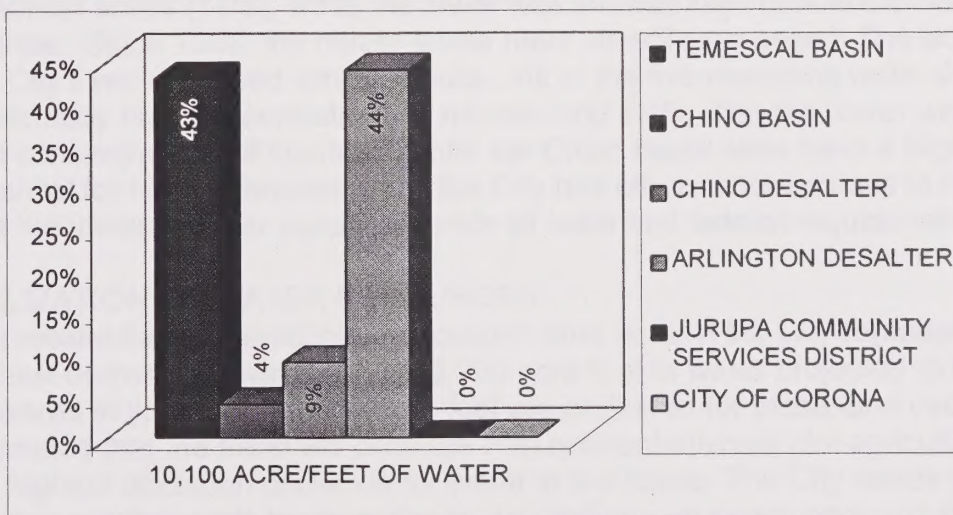


four percent (44%) from the Arlington desalter. Nine percent (9%) will come from the Chino basin desalter and four percent (4%) from the Chino ground water basin. (Exhibit 3.4, Project Water Resources – Buildout, 2010).

**EXHIBIT 3.3
PROJECTED WATER RESOURCES - 2005**



**EXHIBIT 3.4
PROJECTED WATER RESOURCES – BUILDOUT, 2010**



3.1.5 EXISTING WATER QUALITY

Well water for potable water supplies in this region is generally well below maximum containment levels for salts, and is safe to drink. The City has



Norco

General Plan Conservation Element

connections with the City of Corona and JCSD for peak periods when the City may not have adequate capacity to meet daily demand, and also meet fire and emergency demands. When the City approaches peak demands the City must draw water from wells that exceed maximum containment levels for nitrates. Back-up water supplies from either Corona or JCSD are used to mix with well water to bring salt containment below maximum levels.

Salts, such as nitrates, are minute particles suspended in water that once they reach certain levels are considered a contaminant to the water supply. All of the wells produce water with moderate levels of nitrates that vary within a range. There are rare situations where water from certain wells can exceed maximum state containment levels for nitrates. The level of nitrates in the water supplies in this area occurs because of previous contamination from extensive dairy farming. Polluted runoff from increased urbanization also increases potential contamination to groundwater supplies.

Groundwater quality is an important concern to the City. The City currently relies on wells for most of its water supply, and will continue to rely on groundwater resources in the future. The city continually tests wells for contamination and overall water quality to ensure that the best possible drinking water for the community is available. The quality of water in Norco currently meets or exceeds all state and federal water quality standards (Table 3.1, Water Quality Report).

In 1987, tests were done on four wells owned by the California Rehabilitation Center located southeasterly of Bluff Street. The shallower wells showed high concentrations of manganese with moderate concentrations of nitrates and total dissolved solids (TDS), while the lower well showed high concentrations of flouride. Since 1988, the nitrate levels have steadily increased. The latest test of the City's wells showed similar results. All of the five operating wells showed moderately high concentrations of nitrates and TDS. The two lower wells also had concentrations of flouride. While the Chino basin wells have a higher potential for nitrate concentration, the City has other water sources to mix in so that the ultimate water supply exceeds all state and federal requirements.

3.1.6 UTILIZATION OF WATER RESOURCES

The residential and small plot agricultural land uses in the City represent the highest demand for water. Of the 6,800 acre feet of water projected to be delivered in year 2001, 4,500 acre feet are projected for these land uses. It is estimated that the trend will continue with residential/small plot agriculture having the highest utilization demands for water in the future. The City needs to have storage requirements to cover day to day delivery demands and also to cover emergency requirements. Emergency storage is required to maintain service in the event of regional power outages or massive concurrent pumping plant failures.



TABLE 3.1
WATER QUALITY

(parts per million unless otherwise noted)

PRIMARY HEALTH RELATED STANDARDS	STATE MCL	STATE PHG	NORCO STATISTICS		
			1999 AVERAGE	2000 AVERAGE	2000 RANGE
Microbiological	5%	0	<1%	<1%	<1%
Total Trihalomethanes	.1	NA	.025	.031	.002 - .074
Tetrachloroethane	.005	0	ND	ND	ND - .001
Trichloroethylene	.005	0	.001	.001	ND - .033
Nitrate	45	45	9.1	11.3	ND - 59.9
Flouride	2	1	1.6	1.6	1.29 - 4.03
Arsenic	.05	NS	.017	.0067	ND - .038
Aluminum	1	NS	.002	0	ND - .008
Barium	1	2	.035	.03	ND - .114
Gross Alpha (pico curies/liter)	15	NS	2	1.17	ND - 4.51
Uranium (pico curies/liter)	20	NS	1.6	1.0	ND - 5.1
Lead	.015	NS	< .015	< .015	<.015-.0456
Copper	1.3	NS	< 1.3	< 1.3	ND - .679
SECONDARY AESTHETIC STANDARDS					
Chloride	500	NS	145.3	134.5	39 - 227
Sulfate	500	NS	65.9	69.3	17 - 148
Total Dissolved Solids (TDS)	1,000	NS	511.6	511.3	331 - 663

There are time-of-use storage amounts that are necessary to maintain service during peak power periods when pumping plants are shut down in compliance with TOU operating schedules. Time-of-use is a process where pumping and filling of reservoirs are done at times when energy costs are lower. This requires additional storage requirements.

In addition, the City needs to have adequate storage requirements for fire protection. In the 857 pressure zone, the storage requirement is 4,000 gpm for four hours. In the 1021 pressure zone, the requirement is 3,500 gpm for four hours (Exhibit 3.5, Water Pressure Zones). The recommended storage requirement for the 857 pressure zone is 7.7 million gallons for current conditions and 10.1 million gallons for ultimate development. The requirements in the 1,021 north and 1150 pressure zones are 1.6 million gallons and 1.8 million gallons respectively. When the area of the 1021 south pressure zone is developed, the recommended storage requirement is 1.8 million gallons per day.

Currently the City has a storage capacity of 9 million gallons per day in four storage reservoirs and a recommended storage requirement of 9.3 million gallons per day. For ultimate development, the recommended storage requirement will be 13.7 million gallons per day (not including any time-of-use storage requirements). There are two additional reservoirs in planning stages to be constructed by developers of the Norco Ridge Ranch Specific Plan in the southeast quadrant of the City. These two reservoirs will total 1.2 million gallons.



Additionally, there will be a reservoir constructed on the Wyle Laboratories property, the size of which is not known.

3.1.7 CONSERVATION OF WATER RESOURCES

The City has enacted codes such as the Water Conservation Section of the Norco Municipal Code, to encourage conservation of this vital resource. The City will continue to update the Code as needed to help meet the goal of conserving water. Additionally, the City provides public service pamphlets to the community on how to protect and preserve water, including information on how to prevent water contamination and pollution. The City will continue on an annual basis to inform and educate the community on water issues in efforts to conserve and protect the water for existing needs and future generations.

Also, the City has adopted requirements via the Planning Department, Engineering, and Building and Safety Department to conserve water. Such programs include xeriscape landscaping, the use of reclaim water, the use of low flow plumbing fixtures, and other conservation programs to protect and preserve the City's water resources (Section 2.0. (ref. pg. x Conservation-Water Goals/Policies and implementation measures).

3.1.8 DEVELOPMENT OF NEW WATER RESOURCES

To meet existing requirements, the City needs to construct two new wells as soon as possible and acquire 5,100 gallons per minute of imported water by 2005. The City is negotiating to purchase 4,400 acre feet of additional water from the Arlington Desalter in Riverside, California. The purchase of the Arlington Desalter will help the City meet its ultimate water demand at build-out. The City will continue to maintain and improve its current infrastructure in order to provide water for existing and future use.

3.1.9 OTHER WATER RESOURCES

There are two water bodies in the City which are not utilized for consumption and are categorized as "other resources", **Lake Norconian** (man made) and the **Santa Ana River**. They both are surface waters and are used primarily for aesthetic and recreational purposes. Lake Norconian is located at the Naval Warfare Assessment Center (NWAC) which is primarily off-limits to the public, and the Santa Ana River runs along the northern boundary of the City.

Lake Norconian is a manmade lake that was created for recreational purposes with the Norconian Hotel back in the 1920's. When the hotel closed, the property was ultimately split between the NWAC and the State. The State converted the hotel building into a drug rehabilitation incarceration center and since that time, the lake has had little public use. Some fishing still occurs with a local fishing license obtained at the NWAC facilities office. Fish species consist of bass and catfish left over from previous years of stocking. The NWAC promotes a policy of catch and release since they do not re-stock the lake anymore. The NWAC is



responsible for maintaining the lake level from wells that are owned and maintained by NWAC. The NWAC is also responsible for supplying its own potable water supplies.

Over the years the lake has become an important riparian habitat for birds. Each year the Audobon Society counts that number of species and individual birds that are found at the lake on a particular day, generally sometime in December. Some of the species that have been found are land birds and others are migratory. The limitation of the observation to one day per year makes it difficult to determine how critical the lake is to either of these types of species. Until 2000, the count consisted of a total number only, without any breakdown as to what type of species made up the total. There, therefor, has not been any consistent effort to monitor specific species from year to year.

The **Santa Ana River** forms the northern boundary of the City and is a naturally occurring element in the landscape, though it has been changed greatly through human intervention. The river itself in a natural condition has a high flow season in early spring and a low flow season in late fall. In a natural state, the river could at times be dry toward the end of summer during times of drought. The river now has flow in it year-round from treatment plant effluent that is continuously put into the river channel. The river itself is not used for potable water supplies but serves an important function in the re-generation of ground water aquifers, especially in Orange County. The function of the river for recreational purposes is limited to the aesthetic values for riverside trails (equestrian, pedestrian, and bicycle) and parks. Swimming is not permitted in the river because of the treatment plant effluent.

As a riparian habitat, the river supports numerous species including plants, animals, fish, and fowl both for habitat and foraging. While the river does not directly supply potable water, as a resource to wildlife it needs to be preserved and enhanced wherever possible. These issues and opportunities are discussed in more detail in Section 3.5, Wildlife Resources

3.2 ENERGY RESOURCES

The Energy Resource Plan of the Conservation Element provides information regarding the conservation, utilization, and development of energy resources. Also, current and future resources are discussed.

The City of Norco is serviced by Southern California Edison (SCE). SCE is a regional power broker that provides much of the electricity for residents in Southern California that do not live in municipalities or districts that provide their own electricity.

3.2.1 CONSERVATION OF ENERGY RESOURCES

Energy is a basic and essential resource to maintain the livability of Norco as an animal keeping/equestrian community. The generation of energy requires



ongoing depletion of non-renewable resources, the costly extraction and transport of these resources, and the cost of transmission facilities. Currently, Norco's electrical energy is primarily from nonrenewable resources as provided by the power generating companies. The concept of non-renewable resources combined with the overall cost of delivering electrical power, means that conservation of energy is an important piece in the energy puzzle for the sustainability of Norco's lifestyle.

The City recognizes the importance of energy conservation and has taken proactive measures to reduce its energy consumption. Some of the steps City government has taken to conserve electrical power include:

Public Buildings:

- 1.) Thermostats set at 68 degrees in the winter and 75 degrees in the summer.
- 2.) Occupancy sensors installed in non-office rooms.
- 3.) Overhead lighting reduced.
- 4.) Tinted building windows with full southern exposure.
- 5.) Reduced hours and days of ball field lighting.

The City recognizes that the cost and supply of energy resources can become a serious concern for Norco businesses and residents as a result of business decisions that the City has no control over. In order to address this concern, the Planning Commission has expressed interest in establishing a "Blue Ribbon Committee" to explore alternate means for energy conservation and local production. The City may also want to consider the designation of an energy coordinator that could oversee all energy conservation issues as they pertain to the different city departments.

Because of its unique equestrian lifestyle, Norco offers opportunities to conserve energy by encouraging alternative modes of transportation. Although the City is only 14 square miles, there are over 80 miles of designated equestrian trails providing equestrian access to all parts of the City. The City should continue encouraging businesses to provide hitching posts and watering facilities adjacent to trails. All new residential developments are required to include an equestrian trail on at least one side of the street. Trails on both sides should be required where appropriate. In addition the City should continue actively encouraging the completion of the Coast to Crest Trail along the Santa Ana River. This will be a multi-purpose trail accommodating equestrians, bicyclists and hikers that could provide intra-city transport exclusive of automobiles.

3.2.2 UTILIZATION OF ENERGY RESOURCES, DIRECT AND INDIRECT

Ample and reasonably priced energy is crucial to everyday living, and a thriving community. Energy allows residents to work, play, produce, and meet day to day essential living needs. Energy is used in both a direct and indirect manner. Examples of direct uses of energy are transportation, lighting, heating or cooling



structures, and for the operation of machinery and appliances. Direct energy use is easy to identify, affect, and promote energy conservation.

Indirect energy use is more difficult to identify as it is the energy embodied in the production of materials or goods. For example, the construction of a new school embodies all of the energy that went into the process of making the school, i.e., transportation of the materials to the site; the energy required to produce the lumber, glass, nails, and all other materials; and the energy consumed on the construction site. Conservation of indirect energy resources is more difficult due to the large geographic area and multiple levels of participation involved. It requires the cooperation and coordination between all levels of government and businesses.

3.2.3 SOURCE AND SUPPLY OF ENERGY RESOURCES

Energy is regulated via the California Public Utilities Commission, the California Energy Commission, and the Federal Energy Regulatory Commission, the three of which play an important role in the source and supply of energy we receive. In the past a single utility company based on a geographic area, was responsible for all stages of energy production and delivery: **generation** (producing electricity by transforming other forms of energy), **transmission** (transporting that electricity from generation point to the Electric Service Provider or ESP) and **distribution** (from the provider to the customer).

With the deregulation of the industry that came in 1998, customers were able to choose their electrical provider, but at the writing of this document, SCE still owned its own distribution facilities and some of the transmission assets. So true choice between providers does not actually exist in the truest sense of competition in a free market. And at the writing of this document, the State was negotiating with SCE to purchase their transmission assets to help keep the energy provider out of bankruptcy. How deregulation will evolve to affect the typical customer is not known, providing further impetus to conserve existing resources and keep energy costs down. This also is an incentive for the City to investigate opportunities for investment in locally controlled generation facilities to help reduce the City's dependence on imported electricity under market conditions it has no control over.

Most of Norco's electrical consumption is imported and derived from nonrenewable resources. Nonrenewable resources are finite, necessitating the need to continuously find and extract new scarce resources. Fossil fuels provide much of the resource for power generation as can be seen in Table 3.2 (Electricity Sources for California) Presently, the cost and availability of nonrenewable energy resources is dependent on factors beyond the control of customers in Norco. The only immediate real option that the City has to reduce dependence on imported electricity is to conserve, and to encourage on-site generation (i.e. solar, wind, etc.)

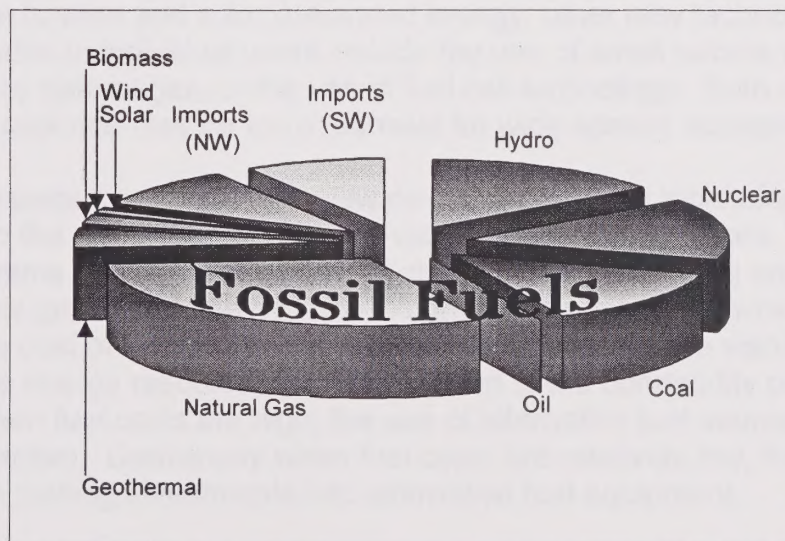


It is anticipated, that because of an uncertain energy future that exists at the preparation of this document, that the state government will create rebates, incentives, and loans to encourage other energy alternatives in lieu of conventional non-renewable resources, in order to meet California's commitment to improving energy. Specifically, the government is looking at renewable energy development to help alleviate the energy shortage, provide clean air, lower rates, and stimulate technological advances through competition. A blue-ribbon committee and/or an energy coordinator could keep abreast of available programs that could assist Norco in its efforts to improve its own energy program.

TABLE 3.2
ELECTRICITY SOURCES FOR CALIFORNIA, 1999

Resource Type	Gigawatt-Hours	Percentage
Hydro	41,617	15.09
Nuclear	40,419	14.66
Coal	36,327	13.17
Oil	55	.02
Natural Gas	84,703	30.71
Geothermal	13,251	4.80
Biomass & Waste	5,663	2.05
Wind	3,433	1.24
Solar	838	.30
Imports - Northwest	26,051	8.50
Imports - Southwest	23,436	8.50
TOTAL	275,793	100.00

EXHIBIT 3.5
CALIFORNIA ELECTRICITY SOURCES



3.2.4 DEVELOPMENT OF ENERGY RESOURCES, RENEWABLE -v- NON-RENEWABLE

Norco can both decrease its dependence on outside energy sources and decrease the consumption of nonrenewable resources by developing renewable energy resources within the city. The City of Norco is located in climate ten (10), which has medium to warm weather. The location, climate, and lifestyle of Norco lends itself well to the potential development and use of renewable energy such as solar, biomass, and wind resources.

3.2.5 POTENTIAL NEW ENERGY SOURCES

There are emerging technologies that could provide alternate sources for electricity that are not widely used in Norco. One potential source could come from the use of windmill technology. The California Energy Commission has mapped the areas of the state that are considered good wind resource areas. These areas are so designated because of the high number of days per year when wind levels are high enough to move the machines and provide a fairly continual resource. The City of Norco does not lie within such an area since winds here are only seasonal. The best opportunity for Norco to take advantage of this resource, at this time, would be on an individual user basis as a supplemental energy supply.

Solar energy is another resource, and is one that has broader applications than windmill technology. Commercial development of processed solar energy is restricted because of the large amounts of open areas that are currently required for photovoltaic module array fields. Photovoltaic technology, however, has applications that make it usable for individual customers to augment their own energy supply. Also, the State has programs that encourage the use of solar technology to make it more cost effective to individual customers.

In addition to wind and solar generated energy, other new technologies that may be applicable to individual users include the use of small turbine engines that are powered by natural gas, or the use of fuel cell technology. Both of these are relatively new and may be too expensive for wide-spread application at this point.

The City needs to continually review new and emerging technologies with regards to the generation and conservation of energy resources. While policies and programs can change, individual users currently have the opportunity to sell any excess generated energy back into the state power grid, which can help defray the cost of equipment. With current technologies the viability of any alternative energy resource is directly related to the commodity price of fossil fuels. When fuel costs are high, the use of alternative fuel sources becomes more attractive. Conversely when fuel costs are relatively low, there is little interest in making investments into alternative fuel equipment.



3.3 SOIL AND MINERAL RESOURCES

Pursuant to Government Code Section 65302 (d) a city's Conservation Element should include discussion of the conservation, development, and utilization of soil and mineral resources. Specifically, cities should discuss each, as they are relevant to their jurisdiction.

3.3.1 SOIL RESOURCES

Soil resources become important in areas of high agricultural production, or areas that have the potential for agricultural production. Classification of soils are important in determining irrigation, planting, and farming of various crops; and also for determining appropriate areas for wildlife habitat, and land use planning. However, the main function of soil data is for agricultural purposes. Due to the fact that Norco is primarily built out, and is not a community based on large agri-businesses, general soils data is provided, but no general plan goals or policies have been included for the conservation of soils as they relate to the maintenance and development of large-scale agriculture. Goals and policies as they pertain to the control of soil erosion have been included.

The State Department of Conservation publishes an "Important Farmlands Map" that categorizes farmland for its significance, or potential significance, to the State's agricultural industry. There are four categories, in descending importance, into which farmland is categorized. The four categories are Prime Farmland, Farmland of Statewide Importance, Unique Farmland, and Farmland of Local Importance. The City of Norco does not have any land within the first three categories, and only two small areas that are designated as "Locally Important" (Exhibit 3.6, Soil Classifications).

Locally Important Farmland is determined by the County Board of Supervisors based on input from a local advisory committee and maps are updated every two years. The two areas mentioned above are located on the northeast side of River Road adjacent to Bluff Street, and in an un-annexed area on the south side of North Street that is within the City's sphere of influence. Both areas are currently not being farmed; and a residential tract has recently been constructed adjacent to the River Road site.

In addition the U.S. Department of Agriculture (USDA) is in the process of mapping the entire nation showing the suitability of soils for the purpose of agricultural production. The mapping for the Norco area has already been completed. The USDA has identified over 40 different soil types within the City of Norco alone. A listing of all the different soil types is not included here but can be found in the documents from the USDA's office (Soil Survey of Western Riverside Area, California, Nov. 1971). The USDA's report also groups the different soil types according to similar qualities and characteristics. Exhibit 3.2



shows how the soils in Norco are grouped and how suitable they are for agricultural purposes.

3.3.2 CONSERVATION OF SOIL RESOURCES

As future development of Norco occurs, soils will be exposed during grading operations. During this time, soils may become susceptible to water and wind erosion. The extent that erosion would occur depends on the particular soil, the extent of area being exposed, the slope, the time of year grading operations occur and erosion control methods that are used.

Recently, the most immediate threat to community safety has been with respect to erosion along the Santa Ana River bluff areas. The main cause of the erosion was due to scouring on the undersides of the bluffs when the Santa Ana River became engorged with winter storm run-off. However, over the past couple of years a bluff stabilization program has been implemented by the U.S. Army Corp of Engineers that has resolved the problem where it has been greatest in the past. Erosion and the subsequent deposition of soils downstream within the riverbed will need continued monitoring to prevent any future problems from developing.

3.3.3 MINERAL RESOURCES

The California Department of Conservation also has a classification system for soils based on the suitability of the soils for mining and extraction of resources (Exhibit 3.7, Mineral Resource Zones). The objective of classification and designation processes is to ensure, through local jurisdictions, that mineral deposits of statewide or of regional significance are available when needed.

Rapid urban expansion in areas with mineral resources can cause these areas to be committed to irreversible land uses prior to the resources being extracted, thereby precluding any future extraction when marketability of the resources is more favorable.

The Department of Conservation has established a hierarchy of mineral resource zones as follows:

- MRZ-1 Areas where geologic information indicates no significant mineral deposits are present.
- MRZ-2 Areas that contain identified mineral resources.
- MRZ-2a Areas underlain by mineral deposits where geologic data show that significant measured or indicated resources are present.
- MRZ-2b Areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present.
- MRZ-3 Areas of undetermined resource significance.
- MRZ-3a Areas containing known mineral deposits that may qualify as mineral resources.



- MRZ-3b** Areas containing inferred mineral deposits that may qualify as mineral resources.
- MRZ-4** Areas where geologic information does not rule either the presence or absence of mineral resources (no known mineral resources).

The City of Norco only has two mineral resource zoning designations within the city limits and most of it is in the MRZ-3a Zone. The zoning designations are from surveys done for State Report 165 "Mineral Land Classification of the Temescal Valley Area" that also covered the Norco area. As indicated above, the MRZ-3a Zone is an area that has known deposits that may qualify as a "mineral resource". The resource in this case is crushed rock for construction-related purposes and is primarily associated with Norco Hills and the hills and slopes around Lake Norconian, including Beacon Hill.

With residential development already approved for many of the hillsides, most of the area in question will not be available for any type of future extraction. The hillside areas not designated for residential development are more valuable to the City as an open space resource than as a potential mineral resource. In terms of importance to the state, it is the City's opinion that there are more suitable areas (i.e. Temescal Canyon) where there is more construction material available en masse, and where it is more accessible and marketable for long-term extraction. Like the classifications for agriculture suitability, the classifications for mineral resources serve as an information source to local jurisdictions to help in determining long-range land use decisions. The State does not require or recommend any implementation measures.

The only other resource zone within City limits is an MRZ-2b Zone located at the very edge of the City near the intersection of Hamner Avenue and Parkridge Street. This is just the edge of a much larger zone that extends into the City of Corona along the Temescal Wash. The primary resource in this zone is "sand and gravel", again for construction purposes. The small portion that is within the City of Norco has some development already over it, and the remaining portion does not constitute enough feasible land area to warrant any type of preservation for future mineral extraction. Based on the above assessment information, no goals or policies are included that encourage or preserve opportunities for mineral extraction. This is consistent with the City's adopted Land use Plan.



Exhibit 3.6

Soil Classifications



Exhibit 3.7

Mineral Resource Zones

3.4 WILDLIFE RESOURCES

The General Plan is premised on the recognition that plant and wildlife resources are important natural resources that should be conserved and protected. Plant and wildlife resources are important to preserve species diversity, the vitality of the particular ecosystems in which they live, and the maintenance of the ecological balance in the City and regional natural areas. The wildlife resources goals and policies support other goals and policies of the General Plan, such as preventing degradation of the natural environment, preserving prime plant and wildlife habitat, and protecting rare and endangered species. Exhibit 3.8 illustrates the City's most important wildlife and open area resources.

3.4.1 EXISTING SETTING FOR RESOURCES

The City is a mixture of small plot agriculture, commercial and industrial development, along with several natural areas containing biological habitats. The primary habitats exist among the hillside areas along the east City boundary and in the Santa Ana River forming the northern boundary of the community. Other biological habitats are isolated and would consist of Lake Norconian, and small separate riparian areas within the hillsides. Biological information for the community has been obtained primarily from environmental assessments that have been prepared for the community.

3.4.2 SPECIAL STATUS SPECIES (rare, threatened, or endangered)

Plant and wildlife resources within the City include native vegetation such as the inland sage scrub and riparian areas, as well as rare, threatened or endangered plant and animal species. The Federal Government lists the Stephen's Kangaroo Rat (*Dipodomys stephensi*) as an Endangered Species. Originally the Stephen's Kangaroo Rat was not felt to have habitat within the City; however, the species was discovered with a biological assessment required by the City with recent development that has occurred and been proposed in the eastern hillside area of the community.

Tables 3.3 through 3.7 list sensitive species that may exist within the community. Preservation of these species depends on the preservation of natural habitats, including any viable inland sage scrub, wetlands and riparian areas. Both the size of individual habitat areas and the connectivity between these areas can directly affect the ability of these habitats to support viable populations of sensitive species. In order to mitigate the impacts caused by new development in the City and throughout the County, the City is cooperating with the Western Riverside Council of Governments in the development of a Multiple Species Habitat Conservation Program (MSHCP).



Exhibit 3.8 Wildlife Resources



The MSHCP is a coordinated planning effort involving western county cities and Riverside County to preserve and promote the viability and recovery of western Riverside County ecosystems and habitats. The program is intended to protect existing sensitive species and to further the goal of reducing the need to list additional species in the future. Critical to the preservation of Norco's unique lifestyle is a balance between the needs for species and habitat conservation and the needs for continuing recreational opportunities including equestrian, bicycling, and hiking.

3.4.3 HILLSIDE HABITAT RESOURCES

The City has approved low-density residential development for much of the hillside areas, however, approximately 425 acres of open space will also be dedicated to the City for permanent open space.

There have been biological surveys within the hillside areas of the community that together have covered an extensive botanical and wildlife inventory. The hillside areas are comprised of low rolling hills and a large central valley. The soils are comprised of a mixture of decomposed granite and large boulders. The surrounding area is characterized primarily by flat open space to the north and northwest, rolling hills to the south, and two larger hills: one to the west along the central portion of the site and one located to the southeast. The hillside area includes several dry drainage ravines created by erosion that lead to the Hidden Valley Golf Course and off-site. The different plant communities are as follows:

Plant Communities

The hillside areas are comprised of a combination of plant communities depending on topography and historical use of the land, including Riversidean sage scrub, non-native grassland, riparian vegetation in dry season drainage ravines, and bare disturbed ground.

Wildlife surveys in the hillside areas have focused on the Stephen's kangaroo rat, California gnatcatcher and the several wetland areas. Habitat for the quino checkerspot butterfly and the least Bell's vireo has not been found there even though wildlife has been observed in all parts of the hillsides, with the greatest activity in lowland areas. Wildlife is less common on the higher slopes. The following wildlife has been observed in the hillside areas:

Birds

Birds are the conspicuous wildlife observed and include species such as house finch, California quail, mourning dove, European starling, crow and red-tailed hawk.



TABLE 3.3
SPECIAL STATUS SPECIES-BIRDS

SPECIES (common name)	STATUS Explanations at bottom	TYPE OF HABITAT PRESENT & SPECIES OCCURANCE (<i>Italics</i>) Explanations at bottom	
		SANTA ANA RIVER/BLUFFS	NORCO HILLS
least Bell's vireo	FE, SE	breeding (<i>NP</i>)	no habitat (<i>NP</i>)
southwestern willow flycatcher	FE, SE	breeding (<i>NP</i>)	no habitat (<i>NP</i>)
southern bald eagle	former FT	marginal (<i>NP</i>)	no habitat (<i>NP</i>)
Peregrine falcon	former FE	foraging (<i>OP</i>)	no habitat (<i>NP</i>)
coastal California gnatcatcher	FT	no habitat (<i>NP</i>)	breeding (<i>NP</i>)
golden eagle	no status	no habitat (<i>NP</i>)	foraging (<i>NP</i>)
western burrowing owl	SSC	no habitat (<i>E?</i>)	foraging (<i>NP</i>)
western yellow-billed cuckoo	SE	no habitat (<i>NP</i>)	no habitat (<i>NP</i>)
Swainson's hawk	SE	foraging (<i>NP</i>)	no habitat (<i>NP</i>)
double-crested cormorant	SSC	no habitat (<i>NP</i>)	no habitat (<i>NP</i>)
western least bittern	SSC	no habitat (<i>NP</i>)	no habitat (<i>NP</i>)
white-faced ibis	SSC	no habitat (<i>NP</i>)	no habitat (<i>NP</i>)
osprey	SSC	foraging (<i>OP</i>)	no habitat (<i>NP</i>)
sharp-shinned hawk	SSC	foraging (<i>OP</i>)	no habitat (<i>NP</i>)
Cooper's hawk	SSC	breeding (<i>OP</i>)	no habitat (<i>NP</i>)
ferruginous hawk	SSC	foraging (<i>OP</i>)	no habitat (<i>NP</i>)
merlin	SSC	foraging (<i>OP</i>)	no habitat (<i>NP</i>)
prairie falcon	SSC	foraging (<i>OP</i>)	no habitat (<i>NP</i>)
long-billed curlew	SSC	no habitat (<i>NP</i>)	no habitat (<i>NP</i>)
long-eared owl	SSC	breeding (<i>PP</i>)	no habitat (<i>NP</i>)
loggerhead shrike	SSC	breeding (<i>P</i>)	no habitat (<i>NP</i>)
California horned lark	SSC	foraging (<i>OP</i>)	no habitat (<i>NP</i>)
cactus wren	SSC	no habitat (<i>NP</i>)	no habitat (<i>NP</i>)
yellow warbler	SSC	breeding (<i>P</i>)	no habitat (<i>NP</i>)
yellow-breasted chat	SSC	breeding (<i>P</i>)	no habitat (<i>NP</i>)
So. Calif. rufous-crowned sparrow	SSC	no habitat (<i>NP</i>)	no habitat (<i>NP</i>)
tricolored blackbird	SSC	foraging (<i>OP</i>)	no habitat (<i>NP</i>)
white-tailed kite	FP	breeding (<i>P</i>)	no habitat (<i>NP</i>)

TERMS AND ABBREVIATIONS USED IN THE TABLE

STATUS	FE- Fed. Endangered; FT-Fed. Threatened; SE-State Endangered; SSC-California Species of Special Concern; FP-California Fully Protected
TYPES OF HABITATS	Breeding – habitat suitable for breeding of a certain species; Foraging – habitat suitable for foraging of a certain species; No habitat – no habitat that is suitable for the species.
SPECIES OCCURANCE	<i>P</i> -Present in the area; <i>OP</i> -Occasionally Present; <i>PP</i> -Potentially Present but not Documented; <i>NP</i> -Not Present; <i>E</i> -Extirpated from the Area



Norco

General Plan Conservation Element

TABLE 3.4
SPECIAL STATUS SPECIES-MAMMALS

SPECIES (common name)	STATUS Explanations at bottom	TYPE OF HABITAT PRESENT & SPECIES OCCURANCE (<i>Italics</i>) Explanations at bottom	
		SANTA ANA RIVER/BLUFFS	NORCO HILLS
California mastiff bat	SSC	foraging (<i>PP</i>)	foraging (<i>PP</i>)
pallid bat	SSC	foraging (<i>PP</i>)	no habitat (<i>NP</i>)
pale big-eared bat	SSC	foraging (<i>PP</i>)	no habitat (<i>NP</i>)
San Diego black-tailed jackrabbit	SSC	breeding (<i>P</i>)	no habitat (<i>NP</i>)
nw. San Diego pocket mouse	SSC	no habitat (<i>NP</i>)	no habitat (<i>NP</i>)
southern grasshopper mouse	SSC	breeding? (<i>PP</i>)	no habitat (<i>NP</i>)
San Diego desert woodrat	SSC	no habitat (<i>NP</i>)	no habitat (<i>NP</i>)
Stephen's kangaroo rat	FE	no habitat (<i>NP</i>)	breeding (<i>P</i>)
TERMS AND ABBREVIATIONS USED IN THE TABLE			
STATUS	FE- Fed. Endangered; FT-Fed. Threatened; SE-State Endangered; SSC-California Species of Special Concern; FP-California Fully Protected		
TYPES OF HABITAT	Breeding – habitat suitable for breeding of a certain species; Foraging – habitat suitable for foraging of certain species; No habitat – no habitat that is suitable for the species.		
SPECIES OCCURANCE	<i>P</i> -Present in the area; <i>OP</i> -Occasionally Present; <i>PP</i> -Potentially Present but not Documented; <i>NP</i> -Not Present; <i>E</i> -Extirpated from the Area		

TABLE 3.5
SPECIAL STATUS SPECIES-REPTILES

SPECIES (common name)	STATUS Explanations at bottom	TYPE OF HABITAT PRESENT & SPECIES OCCURANCE (<i>Italics</i>) Explanations at bottom	
		SANTA ANA RIVER/BLUFFS	NORCO HILLS
southwestern pond turtle	SSC	no habitat (<i>NP</i>)	no habitat (<i>NP</i>)
San Diego horned lizard	SSC	marginal (<i>PP</i>)	breeding (<i>PP</i>)
orange-throated whiptail	SSC	no habitat (<i>NP</i>)	breeding (<i>PP</i>)
silvery legless lizard	SSC	breeding (<i>PP</i>)	no habitat (<i>NP</i>)
coast patch-nosed snake	SSC	no habitat (<i>NP</i>)	no habitat (<i>NP</i>)
Two-striped garter snake	SSC	marginal (<i>PP</i>)	no habitat (<i>NP</i>)
northern red diamond rattlesnake	SSC	no habitat (<i>NP</i>)	breeding (<i>P</i>)
TERMS AND ABBREVIATIONS USED IN THE TABLE			
STATUS	FE- Fed. Endangered; FT-Fed. Threatened; SE-State Endangered; SSC-California Species of Special Concern; FP-California Fully Protected		
TYPES OF HABITAT	Breeding – habitat suitable for breeding of a certain species; Foraging – habitat suitable for foraging of certain species; No habitat – no habitat that is suitable for the species.		
SPECIES OCCURANCE	<i>P</i> -Present in the area; <i>OP</i> -Occasionally Present; <i>PP</i> -Potentially Present but not Documented; <i>NP</i> -Not Present; <i>E</i> -Extirpated from the Area		



TABLE 3.6
SPECIAL STATUS SPECIES-FISH AND AMPHIBIANS

SPECIES (common name)	STATUS Explanations at bottom	TYPE OF HABITAT PRESENT & SPECIES OCCURANCE (<i>Italics</i>) Explanations at bottom	
		SANTA ANA RIVER/BLUFFS	NORCO HILLS
arroyo southwestern toad	FE	no habitat (<i>NP</i>)	no habitat (<i>NP</i>)
California red-legged frog	FT	no habitat (<i>NP</i>)	no habitat (<i>NP</i>)
Santa Ana sucker	FT	nursery (<i>NP</i>)	no habitat (<i>NP</i>)
arroyo chub	SSC	spawning (<i>P</i>)	no habitat (<i>NP</i>)
western spadefoot toad	SSC	breeding (<i>E?</i>)	no habitat (<i>NP</i>)
Santa Ana River woollystar	FE	no habitat (<i>NP</i>)	no habitat (<i>NP</i>)
TERMS AND ABBREVIATIONS USED IN THE TABLE			
STATUS	FE- Fed. Endangered; FT-Fed. Threatened; SE-State Endangered; SSC-California Species of Special Concern; FP-California Fully Protected		
TYPES OF HABITAT	Breeding – habitat suitable for breeding of a certain species; Foraging – habitat suitable for foraging of certain species; No habitat – no habitat that is suitable for the species.		
SPECIES OCCURANCE	P-Present in the area; OP-Occasionally Present; PP-Potentially Present but not Documented; NP-Not Present; E-Extirpated from the Area		

TABLE 3.7
SPECIAL STATUS SPECIES-PLANTS

SPECIES (common name)	STATUS Explanations at bottom	TYPE OF HABITAT PRESENT & SPECIES OCCURANCE (<i>Italics</i>) Explanations at bottom	
		SANTA ANA RIVER/BLUFFS	NORCO HILLS
many-stemmed dudleya	1b	no habitat (<i>NP</i>)	potential (<i>NP</i>)
Munz's onion	FE	no habitat (<i>NP</i>)	potential (<i>NP</i>)
Plummer's mariposa lily	no status	no habitat (<i>NP</i>)	potential (<i>NP</i>)
intermediate mariposa lily	no status	no habitat (<i>NP</i>)	potential (<i>NP</i>)
Payson's jewel-flower	no status	no habitat (<i>NP</i>)	potential (<i>NP</i>)
Parry's spineflower	no status	no habitat (<i>NP</i>)	no habitat (<i>NP</i>)
Palmer's grapplinghook	no status	no habitat (<i>NP</i>)	potential (<i>NP</i>)
Braunton's milk-vetch	FE	no habitat (<i>NP</i>)	no habitat (<i>NP</i>)
long-spined spineflower	no status	no habitat (<i>NP</i>)	no habitat (<i>NP</i>)
Coulter's goldfields	no status	no habitat (<i>NP</i>)	no habitat (<i>NP</i>)
TERMS AND ABBREVIATIONS USED IN THE TABLE			
STATUS	FE- Fed. Endangered; FT-Fed. Threatened; SE-State Endangered; SSC-California Species of Special Concern; FP-Calif. Fully Protected; 1b-Calif. Nat. Pl. Soc. Endangered		
TYPES OF HABITAT	Breeding – habitat suitable for breeding of a certain species; Foraging – habitat suitable for foraging of certain species; No habitat – no habitat that is suitable for the species.		
SPECIES OCCURANCE	P-Present in the area; OP-Occasionally Present; PP-Potentially Present but not Documented; NP-Not Present; E-Extirpated from the Area		



Mammals

Mammal species that have been observed include coyote, black-tailed jackrabbit, pocket gopher, Pacific kangaroo rat, Stephen's Kangaroo rat, and California ground squirrel.

Reptiles

Reptiles found include the side-blotched lizard, western fence lizard, granite spiny lizard, coachwhip snake, western whiptail, western diamondback rattlesnake, and red-diamondback rattlesnake.

Amphibians

The only amphibian observed in the hillside area is the pacific tree frog.

Fish

No hillside riparian areas are large enough to support any fish species.

No sensitive plants, birds, reptiles have been found or observed in the hillside areas, although potential habitat for several sensitive species is present. The only mammal found within the hillside areas is the Stephen's kangaroo rat; a federal endangered species and a state threatened species. A large amount of Riversidean sage scrub is present on the hillside areas, which normally would support a variety of sensitive species. However, the quality of the Riversidean sage scrub is poor, or is either dying or already dead.

Several drainages are present in the hillside areas and fall under the regulatory authority of the U.S. Army Corps of Engineers. These drainages are considered "Waters of the U.S." and are located in several small canyons where seasonal drainage occurs during the wet season. Within these drainages there is a small amount of wetlands. Some riparian habitat occurs within these areas, which is under the authority of the California Department of Fish and Game (Exhibit 3. , Wildlife Resources).

3.4.4 LAKE NORCONIAN HABITAT AREA

As indicated in the Water Resources section of the element, Lake Norconian is a man-made lake that was developed for recreational purposes with the Norconian Hotel in the 1920's. The lake is located on property owned by the Federal Government developed and used by the Naval Surface Warfare Center (NSWC).

The lake has become an important riparian habitat for birds and has historically been a depository for stocked fish. Fish species consist of bass and catfish that are a result of prior years of stocking. The NSWC, as indicated, promotes a policy of catch and release, as re-stocking of the lake does not occur any longer.



As Lake Norconian is a restricted access area on Federal property, a full assessment of the habitat resources has not been made. Each year the Audubon Society counts the number and species that are found at the lake. This usually occurs in the winter months, when migratory and land birds use the lake. The limitation of the observation and counting to a single day makes it difficult to determine whether the lake is a significant habitat for any specific species of bird.

3.4.5 SANTA ANA RIVER HABITAT AREA

The Santa Ana River, in natural condition, is heavily vegetated with a willow-cottonwood riparian habitat. Much of the river is dominated, or becoming dominated by arundo, an invasive non-native giant reed that recovers quickly from disturbance. As such it can overtake native riparian willow and cottonwood habitat areas that do not recover as quickly. While there are remaining dense stands of riparian willows and cottonwoods, many areas that were also once considered densely populated by these species are now completely populated by arundo. The river is fed by the year-round flow from a watershed that extends to the San Gabriel and San Bernardino Mountains.

Because the arundo plant re-seeds and regenerates even after having been removed from an area, it is necessary that the plant be eliminated completely from the entire length of the river. If any healthy arundo plants exist upstream from a cleared area, the seeds will travel down and re-establish new plants before any of the native plants have a chance to get re-established. A consortium of agencies along the length of the Santa Ana River have started a "Team Arundo" that is run through the Santa Ana Watershed Project Authority (SAWPA) for the purpose of doing a systematic eradication starting at the highest headwaters where the plant is found. In addition, both Riverside and San Bernardino Counties and the Nature Conservancy continue localized eradication that has successfully eliminated many acres of arundo within headwater and tributary streams.

The Santa Ana River is habitat for a diverse base of plant and wildlife. Several of these plants and wildlife are listed as sensitive, and portions of the river are categorized as "critical habitat" for the least Bell's vireo. Listed below is a brief summary of the diverse plant and wildlife found (or with the potential to be found) in the portion of the Santa Ana River adjoining the City.

Plant Communities:

The floodplain of the Santa Ana River is dominated by lush cottonwood-willow riparian vegetation interspersed with small to very extensive areas of invasive Arundo scrub. The Santa Ana River along the Norco reach is characterized by the following eight plant communities: cottonwood-willow riparian forest, cottonwood-willow riparian forest with significant Arundo scrub, Arundo scrub, sand bar and sandy wash, marsh, arrow weed scrub,



ornamental and ruderal vegetation, and open water. The Arundo is an invasive species that is increasingly displacing native riparian vegetation in the Santa Ana floodplain. Large expanses of the floodplain along the Norco reach are occupied by Arundo scrub.

The federal government has noted the potential occurrence of two sensitive plant species in the Prado Basin. These are the Santa Ana River woolstar (federally listed as endangered), and the many-stemmed dudleya (listed as sensitive). However, neither of these specimens has been found in the area. The following is a listing of the wildlife observed along the Norco stretch of the Santa Ana River including the Prado Basin:

Birds

A total of 208 species of birds have been recorded within the Prado Basin, including six species federally- or state-listed as endangered or threatened, and four others regarded as sensitive. Of particular interest is the least Bell's vireo. This portion of the Santa Ana River lies within the boundaries of "critical habitat" for the least Bell's vireo as defined by the federal Endangered Species Act of 1973.

Mammals

Four species of mammals, regarded as sensitive, are present in the Prado Basin and could be found in the Santa Ana River adjacent to the City. The species are the San Diego black-tailed jackrabbit, the San Diego desert wood rat, Los Angeles little pocket mouse, and the grasshopper mouse.

Amphibians

Seven amphibians have been confirmed by the federal government as being present in the Prado Basin, and would likely be found to have habitat in the Norco portion of the Santa Ana River. All of these amphibians have been listed as sensitive. No amphibians have been found in any of the recent studies for the Norco stretch of the Santa Ana River, however, the Pacific tree frog and the non-native bullfrog are common along the river and should occur somewhere along the Norco stretch of the river.

Reptiles

Several species of reptiles have been documented in the Prado Basin. Important species would include the southwestern pond turtle (a candidate for federal listing); the coastal western whiptail and the San Diego horned lizard (both regarded as sensitive species).

Fish

Eleven species of fish have been documented in the Prado Basin, eight of which have been introduced. There are three native fish, the Santa Ana sucker, speckled dace, and arroyo chub (all listed as sensitive), known to



be present in the Santa Ana River north and south of the Norco reach. As a result there is the potential for all fish to be in the Norco reach of the Santa Ana River.

4.0 IMPLEMENTATION MEASURES

4.1 RECLAIMED WATER PROGRAM

The City is in the process of providing backbone infrastructure to bring reclaimed water from the Archibald Treatment Plant for use in public landscaped areas. As funding permits, infrastructure lines will be extended providing for the opportunity to use reclaimed water to irrigate public landscaping in additional areas of the City.

4.2 XERISCAPE LANDSCAPING

The City Municipal Code encourages the use of xeriscape landscaping on all new development to reduce the overall amount of water that is ultimately directed toward the watering of landscaping.

4.3 WATER QUALITY REPORTS

The City Public Works Department publishes annual reports concerning the quality of the City's water supply and identifies any trends in the local supply that need to be corrected before overall quality is impacted.

4.4 POLLUTANT DISCHARGE CONTROL

All new development and grading must show what pollutants will be discharged as a result of run-off, and where there may be significant increase in pollutants, what measures will be implemented to reduce that impact.

4.5 PUBLIC WATER INFORMATION PROGRAMS

The City provides public information describing methods of water conservation and the protection of the City's and the region's water quality.

4.6 ENERGY BLUE-RIBBON COMMITTEE

The City Council has established a blue-ribbon committee to investigate what grants and funds may be available to aid the City in different energy conservation and production projects; and to investigate what methods for energy production can feasibly be implemented by the City.

4.7 MULTI-SPECIES HABITAT PROTECTION PROGRAM

The Western Riverside Council of Governments along with the cities of western Riverside County and the County of Riverside are developing a regional species protection plan that will provide areas for habitat conservation and restoration for species of special status, federal or state. The intent is to significantly reduce the



need to list additional species from the region as rare or endangered in the future by setting aside enough open space where species now being considered for listing can be accommodated and/or re-established.

4.8 OPEN SPACE CONSERVATION

In addition to the MSHCP, the City has established permanent open space areas to protect significant wildlife elements of the community.

5.0 GLOSSARY OF TERMS

5.1 WATER RESOURCES

Acre Feet:	Unit used to calculate water volume capacity. One Acre Foot is the equivalent of one acre covered with one foot of water, and is equal to 325,829 gallons of water.
Aquifer:	A subterranean water-bearing geologic formation generally covering a large region.
Basin (groundwater):	Subterranean water bodies within a larger aquifer region defined and separated by geologic substructures such as uplifted bedrock, or as may be defined by adjudicated boundaries.
Basin (watershed):	All of the area defined by geology that drains to a particular outlet to the ocean (in this case the Santa Ana River drainage).
Biomass:	Landfill gas, agricultural wastes, and other waste fuels that are used to generate electricity.
Desalter:	A plant where reverse osmosis is used to make groundwater potable, a process that removes or reduces excessive amounts of minerals from the water.
Groundwater:	(See basin- groundwater)
Reclaimed Water:	The by-product from sewage treatment (or water treatment) that is available for non-potable re-use.



5.2 ENERGY RESOURCES

Biomass	The by-products of small plot agriculture, animal keeping, and landscaping that can be used for the production of methane gas for the generation of electricity.
Direct Energy Use	Activities that directly involve the expenditures of energy resources (i.e. lighting, transportation, power equipment, etc.).
Geothermal	The generation of electricity from stores of superheated subterranean water.
Indirect Energy Use	The use of products for which energy resources are expended in the production process.
Photovoltaic	Units to convert sunlight into electrical power.

5.3 WILDLIFE RESOURCES

Critical Habitat	The minimum amount of suitable breeding and foraging habitat occupied or potentially occupied by Threatened or Endangered Species that is deemed necessary to maintain present populations and to recover populations of the species to the point at which the species is no longer Threatened or Endangered.
Endangered Species	Any species that is in danger of extinction throughout all or a significant portion of its range.
Special Concern	An informal designation used by the State for declining wildlife species that are not officially listed as Endangered, Threatened, or Rare. There is no legal protection for these species, although they are recognized as being sensitive.
Threatened Species	Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.



